

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10577094	
	Filing Date		2006-04-26	
	First Named Inventor	Dietmar KRAUTWURST		
	Art Unit			
	Examiner Name			
Attorney Docket Number		102790-211/30246US		

U.S. PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. [Add](#)

U.S. PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. [Add](#)

FOREIGN PATENT DOCUMENTS								Remove
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button. [Add](#)

NON-PATENT LITERATURE DOCUMENTS			Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10577094
Filing Date	2006-04-26
First Named Inventor	Dietmar KRAUTWURST
Art Unit	
Examiner Name	
Attorney Docket Number	102790-211/30246US

1	Szekeres PG. Functional assays for identifying ligands at orphan G protein-coupled receptors. <i>Receptors Channels</i> . 2002;8(5-6):297-306	<input type="checkbox"/>
2	Wilson S, Bergsma DJ, Chambers JK, Muir AJ, Fantom KG, Ellis C, Murdock PR, Herrity NC, Stadel HM. Orphan G-protein-coupled receptors: the next generation of drug targets? <i>Br J Pharmacol</i> . 1998 Dec;125(7):1387-92	<input type="checkbox"/>
3	Shaaban S, Benton B. Orphan G protein-coupled receptors: from DNA to drug targets. <i>Curr Opin Drug Discov Devel</i> . 2001 Sep;4(5):535-47	<input type="checkbox"/>
4	Joost P, Methner A. Phylogenetic analysis of 277 human G-protein-coupled receptors as a tool for the prediction of orphan receptor ligands. <i>Genome Biol</i> . 2002 Oct 17;3(11):RESEARCH0063.	<input type="checkbox"/>
5	Vassiliatis DK, Hohmann JG, Zeng H, Li F, Ranchalis JE, Mortrud MT, Brown A, Rodriguez SS, Weller JR, Wright AC, Bergmann JE, Gaitanaris GA. The G protein-coupled receptor repertoires of human and mouse. <i>Proc Natl Acad Sci USA</i> . 2003 Apr 15;100(8):4903-8. Epub 2003 Apr 04.	<input type="checkbox"/>
6	Lucas KA, et al. Guanytyl Cyclases and Signaling by Cyclic GMP. <i>Pharmacol Rev</i> . 2000 Sep;52(3):375-414.	<input type="checkbox"/>
7	Gibson AD, Garbers DL. Guanytyl cyclases as a family of putative odorant receptors. <i>Annu Rev Neurosci</i> . 2002;23:417-39.	<input type="checkbox"/>
8	Matsunami H, Amrein H. Taste and pheromone perception in mammals and flies. <i>Genome Biol</i> . 2003;4(7):220. Epub 2003 Jun 30	<input type="checkbox"/>
9	Dulac C, Torello AT. Molecular detection of pheromone signals in mammals: from genes to behavior. <i>Nat Rev Neurosci</i> . 2003 Jul;4(7):551-62.	<input type="checkbox"/>
10	Koshimizu TA, et al. Recent progress in alpha 1-adrenoceptor pharmacology. <i>Biol Pharm Bull</i> . 2002 Apr;25(4):401-8.	<input type="checkbox"/>
11	Araneda R. C., Kini A. D. and Firestein S. (2000) The molecular receptive range of an odorant receptor. <i>Nat Neurosci</i> . 3, 1248-55.	<input type="checkbox"/>

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10577094
Filing Date	2006-04-26
First Named Inventor	Dietmar KRAUTWURST
Art Unit	
Examiner Name	
Attorney Docket Number	102790-211/30246US

12	Bakalyar H. A. and Reed R. R. (1990) Identification of a specialized adenylyl cyclase that may mediate odorant detection. Science 250, 1403-6.	<input type="checkbox"/>
13	Baker H., Cummings D. M., Munger S. D., Margolis J. W., Franzen L., Reed R. R. and Margolis F. L. (1999) Targeted deletion of a cyclic nucleotide-gated channel subunit (OCNC1): biochemical and morphological consequences in adult mice. J. Neurosci, 19, 9313-21.	<input type="checkbox"/>
14	Belluscio L, Gold G.H., Nemes A. and Axel R. (1998) Mice deficient in G(olf) are anosmic. Neuron, 20, 69-81.	<input type="checkbox"/>
15	Bozza J., Feinstein P., Zheng C. and Mombaerts P. (2002) Odorant receptor expression defines functional units in the mouse olfactory system. J Neurosci, 22, 3033-43.	<input type="checkbox"/>
16	Brunet L.J., Gold G.H. and Ngai J. (1996) General anosmia caused by a targeted disruption of the mouse olfactory cyclic nucleotide-gated cation channel. Neuron 7, 681-93.	<input type="checkbox"/>
17	Buck L. and Axel R. (1991) A novel multigene family may encode odorant receptors: a molecular basis for odor recognition. Cell, 65, 175-87.	<input type="checkbox"/>
18	Bufe B., Hofmann T., Krautwurst D., Raguse J.D. and Meyerhof W. (2002) The human TAS2R16 receptor mediates bitter taste in response to beta-glucopyranosides. Nat Genet 32, 397-40.	<input type="checkbox"/>
19	Chandrashekar J., Mueller K.L., Hoon M.A., Adler E., Feng L., Guo W., Zuker C.S., and Ryba N.J. (2000) T2Rs function as bitter taste receptors. Cell, 100, 703-11.	<input type="checkbox"/>
20	Chess A., Simon I., Cedar H. and Axel R. (1994) Allelic inactivation regulates olfactory receptor gene expression. Cell, 78, 823-34.	<input type="checkbox"/>
21	Choi E.J., Xia Z. and Storm D.R. (1992) Stimulation of the type III olfactory adenylyl cyclase by calcium and calmodulin. Biochemistry, 31, 6492-8.	<input type="checkbox"/>
22	Crider J.Y. and Sharif N.A. (2002) Adenylyl cyclase activity mediated by beta-adrenoceptors in immortalized human trabecular meshwork and non-pigmented ciliary epithelial cells. J Ocul Pharmacol Ther, 18, 221-30.	<input type="checkbox"/>

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10577094
Filing Date	2006-04-26
First Named Inventor	Dietmar KRAUTWURST
Art Unit	
Examiner Name	
Attorney Docket Number	102790-211/30246US

23	Dhallan R.S., Yau K.W., Schrader K.A. and Reed R.R. (1990) Primary structure and functional expression of a cyclic nucleotide-activated channel from olfactory neurons. <i>Nature</i> , 347, 184-7.	<input type="checkbox"/>
24	Duchamp-Viret P., Duchamp A. and Chaput M.A. (2000) Peripheral odor coding in the rat and frog: quality and intensity specification. <i>J Neurosci</i> , 20, 2383-90.	<input type="checkbox"/>
25	Dzeja C., Hagen V., Kaupp U.B. and Frings S. (1999) Cs2+ permeation in cyclic nucleotide-gated channels. <i>Embo J</i> , 18, 131-44.	<input type="checkbox"/>
26	Finn J.T., Krautwurst D., Schroeder J.E., Chen J.Y., Reed R.R. and Yau K.W. (1998) Functional co-assembly among subunits of cyclic-nucleotide-activated, nonselective cation channels, and across species from nematode to human. <i>Biophys J</i> , 74, 1333-45.	<input type="checkbox"/>
27	Firestein S., Darrow B. and Shepherd G.M. (1991) Activation of the sensory current in salamander olfactory receptor neurons depends on a G protein-mediated cAMP second messenger system. <i>Neuron</i> , 6, 825-35.	<input type="checkbox"/>
28	Fulle, H.J., Vassar, R., Foster, D.C., Yang, R.B., Axel, R. and Garbers, D.L. (1995) A receptor guanylyl cyclase expressed specifically in olfactory sensory neurons. <i>Proc Natl Acad Sci USA</i> 92, 3571-5.	<input type="checkbox"/>
29	Gaillard I., Rouquier S., Pin J.P., Mollard P., Richard S., Barnabe C., Demaille J. and Giorgi D. (2002) A single olfactory receptor specifically binds a set of odorant molecules. <i>Eur J Neurosci</i> , 15, 409-18.	<input type="checkbox"/>
30	Glusman G., Sosinsky A., Ben-Asher E., Avidan N., Sonkin D., Bahar A., Rosenthal A., Clifton S., Roe B., Ferraz C., Demaille J. and Lancet D. (2000) Sequence, structure, and evolution of a complete human olfactory receptor gene cluster. <i>Genomics</i> , 63, 227-45.	<input type="checkbox"/>
31	Gold, G.H. (1999) Controversial issues in vertebrate olfactory transduction. <i>Annu Rev Physiol</i> , 61, 857-71.	<input type="checkbox"/>
32	Grosch W. (2001) Evaluation of the key odorants of foods by dilution experiments, aroma models and omission. <i>Chem Senses</i> , 26, 533-45.	<input type="checkbox"/>
33	Hamana H., Hirono J., Kizumi M. and Sato T. (2003) Sensitivity-dependent Hierarchical Receptor Codes for Odors. <i>Chem Senses</i> 28, 87-104.	<input type="checkbox"/>

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10577094
Filing Date	2006-04-26
First Named Inventor	Dietmar KRAUTWURST
Art Unit	
Examiner Name	
Attorney Docket Number	102790-211/30246US

34	Hargrave P.A., Adamus G., Arendt A., McDowell J.H., Wang J., Szaby A., Curtis D. and Jackson R.W. (1986) Rhodopsin's amino terminus is a principal antigenic site. <i>Exp Eye Res.</i> 42, 363-73.	<input type="checkbox"/>
35	Jones D.T., Masters S.B., Bourne H.R. and Reed R.R. (1990) Biochemical characterization of three stimulatory GTP-binding proteins. The large and small forms of Gs and the olfactory-specific G-protein. <i>Golf. J Biol Chem</i> , 265, 2671-6.	<input type="checkbox"/>
36	Jones D.T. and Reed R.R. (1989) Golf: an olfactory neuron specific-G protein involved in odorant signal transduction. <i>Science</i> , 244, 790-5.	<input type="checkbox"/>
37	Juilfs D.M., Fulle H.J., Zhao A.Z., Houslay M.D., Garbers D.L. and Beavo J.A. (1997) A subset of olfactory neurons that selectively express cGMP-stimulated phosphodiesterase (PDE2) and guanylyl cyclase-D define a unique olfactory signal transduction pathway. <i>Proc Natl Acad Sci USA</i> 94, 3388-95.	<input type="checkbox"/>
38	Kawai F. (1999) Odorants suppress T- and L-type Ca ²⁺ currents in olfactory receptor cells by shifting their inactivation curves to a negative voltage [In Process Citation]. <i>Neurosci Res</i> , 35, 253-63.	<input type="checkbox"/>
39	Krautwurst D., Yau K.W. and Reed R.R. (1998) Identification of ligands for olfactory receptors by functional expression of a receptor library. <i>Cell</i> , 95, 917-26.	<input type="checkbox"/>
40	Kurahashi J., Lowe G. and Gold G.H. (1994) Suppression of odorant responses by odorants in olfactory receptor cells. <i>Science</i> , 265, 118-20.	<input type="checkbox"/>
41	Lapidot X., Pilpel Y., Gilad Y., Falcovitz A., Sharon D., Haaf J. and Lancet D. (2001) Mouse-human orthology relationships in an olfactory receptor gene cluster. <i>Genomics</i> , 71, 296-306.	<input type="checkbox"/>
42	Leffingwell J.C. (2003) Chirality & Odour Perception – Acyclic Terpenoid Odorants. http://www.leffingwell.com/chirality/acyclic_terpenoid.htm	<input type="checkbox"/>
43	Liu H.Y., Wenzel-Seifert K. and Seifert R. (2001) The olfactory G protein G(alphaolf) possesses a lower GDP-affinity and deactivates more rapidly than G(salphashort): consequences for receptor-coupling and adenylyl cyclase activation. <i>J Neurochem</i> , 78, 325-38.	<input type="checkbox"/>
44	Lucas K.A., Ptani G.M., Kazerounian S., Ruiz-Stewart I., Park J., Schutz S., Chepenik K.P. and Waldman S.A. (2000) Guanylyl cyclases and signaling by cyclic GMP. <i>Pharmacol Rev</i> , 52, 375-414.	<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number		10577094
Filing Date		2006-04-26
First Named Inventor	Dietmar KRAUTWURST	
Art Unit		
Examiner Name		
Attorney Docket Number	102790-211/30246US	

45	Ludwig J., Margalit J., Eismann E., Lancel D. and Kaupp U.B. (1990) Primary structure of cAMP-gated channel from bovine olfactory epithelium. FEBS Lett, 270, 24-9.	<input type="checkbox"/>
46	Malvi, and Shepherd G.M. (2000) Functional mosaic organization of mouse olfactory receptor neurons. Proc Natl Acad Sci USA, 97, 12869-74.	<input type="checkbox"/>
47	Malnic B., Hirono J., Sato T. and Buck L.B. (1999) Combinatorial receptor codes for odors. Cell, 96, 713-23.	<input type="checkbox"/>
48	Meyer M.R., Angele A., Kremmer E., Kaupp U.B. and Muller F. (2000) A cGMP-signaling pathway in a subset of olfactory neurons. Proc Natl Acad Sci USA, 97, 10595-600.	<input type="checkbox"/>
49	Mombaerts P. (1999) Molecular biology of odorant receptors in vertebrates. Annu Rev Neurosci, 22, 487-509.	<input type="checkbox"/>
50	Nakamura T. and Gold G.H. (1987) A cyclic nucleotide-gated conductance in olfactory receptor cilia. Nature, 325, 442-4.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Not for submission under 37 CFR 1.99)

Application Number	10577094
Filing Date	2006-04-26
First Named Inventor	Dietmar KRAUTWURST
Art Unit	
Examiner Name	
Attorney Docket Number	102790-211/30246US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- ☒ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Andrew N. Parfomak/	Date (YYYY-MM-DD)	2006-10-13
Name/Print	Andrew N. Parfomak	Registration Number	32431

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.